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# National Transportation Safety Board

Washington, D.C. 20594  
Safety Recommendation

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Date: MAY 12 1986

In reply refer to: I-86-03

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Department of Health and Human Services  
200 Independence Avenue S. W.  
Washington, D. C. 20201

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Since its inception, the National Transportation Safety Board has been concerned about the consequences of alcohol and other drug use by vehicle operators in our nation's transportation system. In its pursuit of a long-term strategy to reduce these accidents, the National Transportation Safety Board hosted a public forum on alcohol safety education on March 11 and 12, 1985 to discuss how such education can become a more effective component of our nation's transportation safety program. 1/ The Board is aware that transportation accidents are one of the most serious manifestations of the alcohol and other drug abuse problems in our society. It recognizes that addressing these transportation consequences requires adopting measures which affect and will hopefully benefit many segments of our society. The report which accompanies this letter summarizes the results of the NTSB Forum as well as selected research findings on alcohol prevention programs and the prevalence of alcohol abuse among young Americans--our transportation operators of the future.

It is estimated that approximately 30 percent of the nearly 100,000 alcohol-involved deaths in the U.S. each year occur in transportation accidents. 2/ The Safety Board has investigated many of these transportation accidents in which operators' abilities have been impaired by alcohol or other drugs. In so doing, the Board has collected information on the involvement of alcohol in all modes. (See figure 1.) Yet, even these figures do not convey the full magnitude of the problem because of the lack of accurate and complete data on alcohol and other drug involvement in crashes in most transportation modes.

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1/ While the principal focus of the NTSB Public Forum and this report is on alcohol as the primary drug of abuse, other impairing drugs and their respective education/prevention programs are addressed. For the purpose of this report, the term "alcohol safety education" is intended to include safety education and prevention efforts directed at alcohol and other drugs.

2/ Based upon accident figures for each mode and total alcohol-related deaths as reported by the U.S. Department of Health and Human Services for 1980 (the most recent year available).

### HIGHWAY

- o 54% of fatalities involve alcohol
- o 23,500 Alcohol-Involved Deaths in 1984
- o Alcohol-involved crashes are the leading cause of death for ages 16-24

### AVIATION

- o 10% Fatal (General Aviation) Accidents Involve Alcohol
- o 791 alcohol-involved deaths (1975 to 1981; all aviation types)

### RECREATIONAL BOATING

- o Up to 75% of Fatalities involve alcohol
- o 38% Fatalities have blood alcohol concentrations over 0.10%
- o 400-800 alcohol-involved fatalities per year

### RAIL

- o 18 NTSB-Investigated Accidents since 1982:
  - 13 deaths; 25 injuries
  - \$25 million in property Damage

Figure 1.--Alcohol Involvement in transportation accidents.

The Safety Board's process of accident investigation, followed by recommendations for corrective action, focuses on immediate safety problems. But long-term measures are also necessary. The overwhelming body of expert opinion indicates that prevention and education efforts must be directed towards young people and must begin as early as kindergarten age. The consensus is that a major focal point for these efforts must be the school systems, where alcohol and other drug abuse often begins and where young people spend so much of their time. A long-term strategy to reduce transportation accidents must include prevention and education programs to complement current efforts to remove alcohol or other drug-impaired operators from our nation's transportation system. The Safety Board is also mindful that any benefits which accrue to transportation safety will, most certainly, be manifest more widely to our whole society.

Recent research provides some excellent but worrisome data on usage levels and attitudes toward alcohol and other drugs by young people in the U.S. (See figure 2.) One landmark study was conducted in 1983 by Weekly Reader Periodicals (then a division of Xerox Education Publications), in cooperation with the White House Drug Abuse Policy Office and other groups. Some of the findings are summarized in figure 2.

Clearly, a significant number of children--even at the fourth grade level--believe that drinking alcoholic beverages is "a big problem" among their peers. They feel they are under pressure from their peers and are encouraged by TV and movies to experiment with alcohol and other drugs. Not until junior high school do they see the schools as the primary place where they learn about the dangers of drugs and drinking. By that time, however, they believe that patterns of alcohol experimentation are already well established in many of their peers. 3/

3/ Weekly Reader Periodicals. "A Study of Children's Attitudes and Perceptions About Drugs and Alcohol" (Middletown: 1983).

Two national surveys of high school and junior high school students also indicated levels of alcohol use by adolescents that are reason for great concern. 4/ 5/ Almost 10 percent of sixth graders surveyed reported that they had tried alcohol, and more than half of the students surveyed had tried alcohol by the ninth grade; almost all students had experimented with alcohol by their senior year. More alarming, however, is the fact that 5.5 percent of high school seniors reported using alcohol daily. Further results of these surveys are shown in figure 2.

#### Elementary and Junior High School Students

- o 33% of 4th-8th graders believe drinking is "a big problem" among kids their age
- o 32% of 4th graders feel "some" to "a lot" of pressure to try alcohol/drugs
- o 60% of 7th graders feel "a lot" of pressure to try alcohol

(Source: Xerox Weekly Reader Survey-100,000 4-12th Graders)

#### Senior High School Students (Grades 10 to 12)

- o 15-20% (over 1.6 million) estimated to be weekly heavy drinkers
- o 27% weekly drinkers
- o 62% monthly drinkers
- o 87% used alcohol at least once
- o One of every four students was "at risk" for involvement an alcohol-related highway accident at least once during the last year
- o More than half a million 10-12th graders estimated to have driven after drinking 10 or more times during previous year

(Source: National Institute on Alcohol Abuse and Alcoholism, National Institute on Drug Abuse.)

Figure 2.--Alcohol use by youth.

While the immediate risk posed by young people who use alcohol and other drugs is a serious highway safety problem, the potential danger extends to all other transportation systems. A long-term strategy to eliminate alcohol use in our transportation system must include a substantial alcohol abuse prevention/education effort directed at young people.

#### NTSB PUBLIC FORUM ON ALCOHOL AND DRUG SAFETY EDUCATION

Education specialists, substance abuse experts, teachers, school administrators, parents, public officials, and citizens with extensive knowledge and experience in this subject were invited to the NTSB Public Forum. These experts presented summary oral

4/ White, Joan B.; Funkhouser, Judy E.; and Somers, William M. "Adolescent Alcohol Beverage Consumption Patterns." Paper presented at the Annual Meeting of the American Public Health Association (Anaheim: 1984).

5/ The NIAAA surveys were conducted in 1974 in 453 schools representing all 7th-12th grades; in 1978 in 75 high schools representing all 10th-12th grades. The NIDA national surveys have been conducted annually since 1975 to produce national estimates of drinking and other drug taking behavior among high school students.

remarks on the first day of the forum and participated in a round table discussion on the second day. In addition, representatives from many organizations with interest in areas related to alcohol safety education were invited to submit written testimony and to join in the roundtable discussion.

The objectives of the forum were as follows:

1. To develop a general understanding of the state of alcohol safety education;
2. To derive specific information on exemplary school and community alcohol safety education programs;
3. To identify major barriers to the extension and implementation of such programs to all school systems and communities; and
4. To develop potential Safety Board recommendations to appropriate agencies and organizations designed to promote the adoption of comprehensive alcohol and drug safety education in schools and communities.

From the testimony and discussion over the course of the Forum, five general issues emerged:

1. What is the appropriate educational message(s)?;
2. Who should deliver the message(s)?;
3. What is a "comprehensive" or model program?;
4. Program costs and resources; and
5. Role of the federal government.

(In the full report which accompanies this letter of recommendation, the major points raised by participants are summarized according to these five issues.)

In discussing the content of an effective program, participants were divided as to the general message that is appropriate. While one group advocated a strict "hands-off" alcohol philosophy for youth, others were for teaching a "responsible use" approach. Whatever their philosophy on content, participants agreed that to design effective programs a number of issues must be considered and they must be considered as parts of a whole process. Such issues include identifying and training teachers and counselors, including classroom teachers and members of the peer group; beginning the program as early as kindergarten; tailoring the lesson to the age group; and integrating the information and materials into the school's curricula. Participants also defined and suggested ways to coordinate the various elements necessary in a successful program. Finally, the problems of funding and defining the Federal role in such programs were issues that generated considerable discussion.

While a clear message came forth that alcohol and drug education programs must be locally directed and locally focused, the participants also agreed that there are critical roles for Federal agencies in alcohol and drug safety education. In fact, Forum participants, particularly State and local practitioners, felt that the most important role the Federal government should undertake is the collection and dissemination of alcohol and drug information and programs. Support was also expressed for the efforts of the Federal government -- from that of the President and the First Lady to the various

Federal agencies -- to publicize the dangers of drug abuse and keep this issue before the public. However, the Federal role in disseminating accurate and consistent information nationwide is an especially vital one according to Forum participants.

The National Institute on Alcohol Abuse and Alcoholism (NIAAA) Clearinghouse for Alcohol Information (which serves such a role) was highly praised by Forum participants. The NIAAA Clearinghouse, however, does not routinely collect alcohol educational curricula, programs, and materials from across the country. It is also restricted to one drug--alcohol. Those participating in the NTSB Public Forum suggested that the NIAAA Clearinghouse should be broadened in scope to include not only curricula, programs, and materials, but evaluations of these curricula and programs as well. Yet, concern was also voiced that a clearinghouse run by one agency such as NIAAA, the National Institute on Drug-Abuse (NIDA), or the Office of Smoking (Public Health Service) might lead to a predomination in one area and not foster the integration of knowledge and experience among the respective drug disciplines. Therefore, an agency that is "drug-neutral" yet involved in the field of education would be a logical choice to direct or coordinate the operation of a clearinghouse. Participants in the NTSB Forum also made another point, namely, that the "educational establishment," including the U.S. Department of Education, textbook publishers, and State and local school boards must be actively involved in alcohol education. Without this involvement, most participants felt that even the most well conceived programs would not be implemented or sustained.

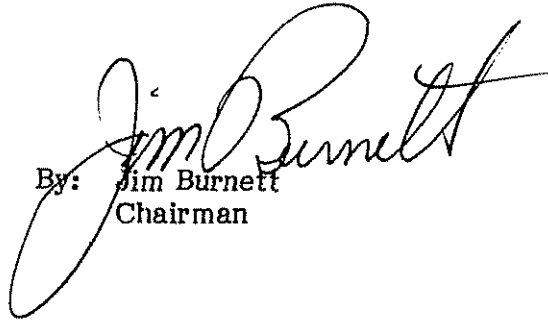
In order to "institutionalize" alcohol education into the mainstream of education, several suggestions were offered. One suggestion was to work with the publishers of textbooks and materials to integrate alcohol education units and concepts into the base or standard curricula, especially those used in elementary schools. Educators at the Forum suggested that this "co-curricular" approach is less disruptive of basic education and, therefore, more likely to be adopted.

Finally, the absence of rigorous scientific evaluations of many alcohol education programs was a recurring theme in Forum discussions. Participants generally agreed that comprehensive alcohol education programs must be evaluated and should contain built-in evaluation components to allow periodic assessments of program effectiveness. Because such evaluation research is costly and requires expertise not available in many school districts, Forum participants suggested the need for Federal assistance in this area. Several agencies, including the NIAAA and NHTSA have, in the past, supported evaluations of alcohol education curricula and programs. The NIAAA is currently developing criteria for evaluating prevention programs and will support some curriculum evaluations through its research grants program. What appears to be lacking, however, is a systematic and coordinated Federal program to evaluate exemplary alcohol and drug safety education programs nationwide and to disseminate this information to the States and localities. Participants felt that without such Federal involvement and support, alcohol and drug safety education programs will remain untested; exemplary programs might remain unknown to potential users in other States and localities; and resources will be wasted on unproven curricula or in duplicating available programs or materials.

Therefore the National Transportation Safety Board recommends that the Department of Health and Human Services:

Assist the Department of Education in the creation of a national clearinghouse for alcohol and drug safety education programs, curricula, and related information. (Class II, Priority Action) (I-86-03)

BURNETT, Chairman, GOLDMAN, Vice Chairman, and LAUBER, Member,  
concurred in this recommendation.



By: Jim Burnett  
Chairman